Chemical Weapons Convention

by

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The proliferation of chemical and biological weapons has been more wide spread than nuclear weapons for several reasons; inter alia, biological and chemical weapons are easier to acquire than nuclear ones, and because society in general has not been as consistent in its vocalization or protest actions against such weapons.[1]

Overview

The objective of the Chemical Weapons Convention (CWC) is to rid the world of chemical weapons by prohibiting their development, production, acquisition, stockpiling, retention, transfer, and use. The treaty was entered into force on April 29, 1997, with 160+ countries as signatories, and with 85+ countries having ratified this international agreement. Destruction of existing chemical weapons is one of the treaty stipulations; that is, stocks must be totally destroyed over a 10-year period in accordance with a treaty-stated minimum annual rate of destruction. Weapon-possessor states may accelerate their destruction schedule as long as the means for destruction is environmental safe and sound.[2]

Definition of Chemical Weapons

Article II, paragraph 1 of the CWC defines **chemical weapons** as:

"1. Chemical Weapons means the following, together or separately:

> (a) Toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes;
>
> (b) Munitions and devices, specifically designed to cause death or other harm through the toxic properties of those toxic chemicals specified in subparagraph (a), which would be released as a result of the employment of such munitions and devices;
>
> (c) Any equipment specifically designed for use directly in connection with the employment of munitions and devices specified in subparagraph (b).[3]

Chemical Warfare Agents

Chemical Warfare (CW) agents are defined in a 1969 United Nations report as:

". . . chemical substances, whether gaseous, liquid or solid, which might be employed because of their direct toxic effects on man, animals and plants . . ." [4]

The basic differences between the two definitions are:

1. The CWC includes both ammunition and chemical dispersion equipment, in addition to the actual toxic chemicals, as chemical weapons.

2. And while toxic chemicals are defined as chemicals that can cause death or injury to people, animals, and plants, there is no mention of plants in the CWC.

The main groups of CW agents include nerve agents, mustard agents, hydrogen cyanide, tear gases, arsines, psychotomimetic agents, toxins, and potential CW agents. Toxins are poisons produced by living organisms as well as their synthetic equivalents, and are classified as CW agents if they are used for military purposes. The non-peaceful use (development, production, and stockpiling) of toxins is also covered by the Biological and Toxin Weapons Convention of 1972. Although five to six-dozen different chemicals have been produced for CW purposes during this century, only a handful is considered to be relevant because of the practicality for safe storage of the chemicals as well as for their effective usage on the battlefield.

History has resulted in the incorrect designation of CW agents as gas war weaponry. While it is true that during World War I the use of chlorine and phosgene resulted in the "gassing" of troops, these two chemicals are gases at battlefield temperatures and pressures. Modern day CW agents are liquids or solids, and are dispensed by being either evaporated or atomized. Hence, the agent can enter the body through, either the respiratory system or the skin.

As a side note, napalm and phosphorus, both used in incendiary-type weapons, are not classified as CW agents because their destruction power is primarily thermal. Chemicals used for smoke screens may be poisonous if used in sufficiently high quantities, but are not classified as CW agents because their primary purpose is for generating a vision barrier and not to poison. Living organisms capable of producing toxins are not considered to be CW agents, but are classified as biological weapons.[5]

CW Agent Dispersion

Dispersed CW agents form a cloud composed of both gas and liquid droplets. Larger droplets fall to the earth leading to ground contamination for a length of time. The smaller droplets are suspended in the gas, the mixture of which drifts with the wind. The eventual evaporation of the ground contaminants will result in the formation of a second cloud, also drifting in the wind. The height and means of dispersal will affect the distribution, as will any thickening compounds added to the agents.

Weather influences the effects of CW agents. Strong wind or rain may dilute the agent concentration. Extreme cold also may reduce respiratory effects; however, that same cold may cause the ground (and some agents) to freeze, thereby possibly prolonging the risk for contact from contaminants. A strong wind will rapidly disperse the primary cloud, minimizing the exposure time and leading to fewer injuries to those individuals having no protective attire.

Conversely, a weak wind will lead to more injuries unless a time-presented opportunity for warning is not recognized and acted upon. Atmospheric turbulence, inversion layers, and sunshine effects also contribute to the dispersal attributes of the primary cloud of agents.

During the winter months, contaminated snow may pose a problem because of its being carried on shoes and clothing into shelters and vehicles. Inside-temperatures will cause the agents to evaporate, hence, possibly causing exposure to high concentrations of gas. Fallen snow covering, and heavy rain flushing, effects on contaminants are beneficial, while light rain effects are detrimental because of the clogging effects in the pores of the upper soil surface

Woodlands will allow for the absorption of the agent mixture in a cloud; however, wooded areas, depressions, and restricted passages may lengthen the effects. Because of the lower air exchange attributes of closed up buildings and vehicles, the cloud will take a certain length of time to penetrate the interior. In a like manner, once the interior has been contaminated, it will take time and effort to "air" out the shelter.

It is easier to come into contact with CW agents that have penetrated soft ground (sand, grass, snow) then those agents that have fallen on hard, but porous surfaces such as concrete or asphalt. Since falling droplets will be captured to a certain extent by a tree's leaf cover, densely wooded areas may have reduced ground contamination. That would not be the case where the ground was primarily covered with bushes. Walking on that type of terrain, and through the contaminated underbrush would probably be very risky if the individual did not have on any CW-protective garments.[6]

Chemicals Controlled by the CWC

The CWC will monitor trade in certain chemicals that may be used to manufacture chemical weapons. Trade in "military agents with no or low commercial use" such as phosphonofluoridates, and certain protonated salts and mustard compounds, and "high risk precursors and toxic chemicals with moderate commercial use," such as methyl, ethyl, or propyl compounds bonded with phosphorus atoms will be restricted three years after the treaty enters into force. Five years after entry-into-force, treaty members can vote to enact legislation to enact restrictions on "high commercial volume dual-use chemicals," that is, chemicals that have wide commercial usage. Examples of this last set of chemicals include phosgene and hydrogen cyanide.[7]

Background - Following WWI

Signed in June 1925, the Geneva Protocol was concerned with the prohibition of the use in war of asphyxiating, poisonous or other gases, and of bacteriological methods of warfare. The prohibition had been declared in treaties between the majority of the world powers, and this particular protocol was declared to be universally accepted as part of International Law. The signatories were urged to do everything within their power to convince the other nations of the world to accept and be bound to the conditions of the protocol. The instruments of ratification from each country acceding to the protocol were to be stored in the archives of the Government of the French Republic.[8]

Biological and Toxin Weapons Treaty

The Convention on the Prohibition on the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction was entered into force on March 26, 1975. The signatories reaffirmed the 1925 Geneva Protocol, and recognized that an agreement on the prohibition of biological and toxin weapons also represented a first step toward an agreement leading to the prohibition of the development, production, and stockpiling of chemical weapons, and hopefully to facilitate the eventual

achievement of general and complete disarmament. In fact, Article IX of the treaty is specifically concerned with "good faith" negotiations by the signatories leading to an early agreement on not only the prohibition of chemical weapons, but their production equipment and means of delivery for weapon purposes as well. And Article XII deals with the scheduling of a Geneva conference, no later than five years hence, to not only review the operation of this particular treaty, but also discuss the status of negotiations on chemical weapons.[9]

CWC Ratification Efforts Within the U.S.

In the U.S., the CWC efforts were initiated by the Reagan Administration. Since that time, both Presidents Bush and Clinton have been active proponents of the CWC. And some of the very large, well-known chemical companies (Dow Chemical, DuPont, Union Carbide) in the U.S. supported the CWC, recognizing the benefits of public policy and its effects on business.[10] Union Carbide management, of course, remembers its own chemical plant disaster in India some years back - a financial, and world public opinion nightmare.

The political difficulty within the U.S. for passage of the CWC had to do with certain Senators (Jesse Helms and others) leading a very lengthy and vocal fight against passage. The theme of the Senators' arguments was that the CWC merely provides a false sense of security. Regimes most likely to use chemical weapons will not sign the treaty, and of those that do sign, some would use such weapons if the appropriate situation presented itself (governments have been known to break other arms control treaties). And therefore, it is important for the U.S. to have adequate defenses against chemical weapons. However, much of the comment from the opposing Senators was focused on money matters; that is, the alleged concern over intelligence issues as they relate to the financial impact on the U.S. chemical industries - the risk of losing industry secrets because of the intrusive nature of the short-notice international inspection process. The concern over the rogue states, and their supposed refusal to sign the treaty, was countered by CWC supporters using the argument that most of the chemical industry supports the CWC, and hence would not fill orders from rogue states for the necessary ingredients to make chemical weapons. Also, the treaty does call for political and economic sanctions to be imposed upon non-signatories of the treaty. In actuality, Senator Helms was trying to leverage the CWC passage with his personal goals of having eliminated certain U.S. government activities, and also the downsizing of the U.N. in order to make it a less expensive operation. On the other hand, the potential cost to the U.S., for its failure to ratify the CWC, was estimated to be well in excess of $500 million annually because of treaty-imposed trade restrictions on U.S. exports by treaty signatories. In addition, lack of expedited action on ratification would mean that the U.S. would be unable to influence or provide input to CWC processes being set up for inspection procedures, budget decisions, and so forth.[11]

At Long Last - U.S. Ratification on April 25, 1997

Four days before the date for the treaty's "entry-into-force," the U.S. instrument of ratification was deposited by President Clinton. On the day before (April 24), the Senate undertook a last-minute action to pass a resolution approving the CWC. The senatorial approval ended a 14-hearing and much-debate process begun some 41 months earlier. Although 28 conditions were made part of the U.S. approval, none interfered with the actual ratification process or caused an imposition for the instrument's deposit with the U.N. Secretary-General. The Senators that had led the fight to oppose the CWC reversed their previously stanch positions, and the Senate Leadership added its support for its passage. Senator Helms, as Chairman of the Foreign Relations Committee, authored a resolution for ratification that contained 33 conditions. Five of the

conditions, however, were known as "killer" conditions which would have precluded the President from depositing the instrument of ratification. These five conditions, having in part to do with the first-requiring of CWC ratification by Russia, China, and the various rogue nations before the U.S. could join the Convention, were eventually removed by individual majority votes as the resolution moved through the parliamentary-approval process in the Senate. Twenty-eight conditions remained, but as mentioned above, did not impede the ratification process. As a quid-pro-quo gesture to persuade the Senate to bring the CWC to a vote before the treaty's entry-into-force date of April 29, the White House had to agree to a major restructuring of the various U.S. foreign affairs agencies, including an agreement to incorporate the Arms Control and Disarmament Agency into the State Department.[12]

The CW Convention

In the preamble, the parties to the Convention express their goal to achieve a complete disarmament under international control as well as a prohibition and elimination of all weapons of mass destruction. The principals and objectives of both the 1925 Geneva Protocol and the 1972 Biological and Toxin Weapons Convention are reaffirmed. For the "sake of mankind," the signatories are determined to eliminate the possibility of the use of chemical weapons, and also agreed to the prohibition of herbicides as a means of warfare. International cooperation and exchange of scientific and technical data relating to chemical activities not prohibited under the Convention are recognized for being desirous endeavors, and free trade in a Convention-approved list of chemicals is encouraged. However, advances and achievements in the field of chemistry should be accomplished solely for the benefit of mankind. A necessary step toward the achievement of the aforementioned objectives is the complete elimination of the class of weapons known as chemical weapons as defined in the Convention.

The Convention contains 24 articles. A summary of some of the more significant articles follows below. Article I is concerned with the general obligations of the Convention, that is, the prohibition of producing, acquiring, storing, transferring, using or encouraging others to use chemical weapons. The destruction of existing weapons is addressed, as is the prohibition of the use of riot control agents as a method of warfare.

The definitions for chemical weapons and agents, and the criterion for production and processing of chemicals is given in Article II. See the beginning of this paper for the Convention-definition of chemical weapons.

Article III requires signatories to declare, within 30 days, the existence, location, and quantity of any chemical weapons or production facilities (including laboratories, and test and evaluation sites) owned or possessed by that state, and located on either their own national soil or the soil of some other sovereign state. Chemical agents intended for riot control use are to be declared as well.

Access to, and on-site verification of, the declared chemical weapon storage and destruction facilities are addressed in Article IV. The process for the planning of the destruction of existing weapons is presented, and the cost obligations regarding weapon destruction and on-site monitoring and verification inspections are discussed.

The provisions of Article V read in a similar manner as Article IV, but are concerned with chemical weapon production facilities.

Article VI talks to those activities not prohibited under the Convention; that is, the development, production, acquisition, retention, transfer, and uses of toxic chemicals and their precursors for purposes other than that prohibited under the CWC. However, each state is to adopt measures sufficient to preclude prohibited (under conditions specified in the Convention) use of these chemicals and precursors. Declarations, and annual updates, are to be made of any compounds listed on the Convention's "Schedule 1, 2, or 3 chemicals." On-site verification measures are also discussed. Undue intrusion by the Technical Secretariat, an organ of the Organization for the Prohibition of Chemical Weapons, is to be avoided. Figure 1 shows the Convention thresholds for annual data declaration and routine inspections.[13]

Article VII specifies the obligations of signatory-states, including the adoption of national measures implementing those obligations. It also defines the establishment of the necessary relationships between the state and the CWC organization. Article VIII gives a description of the organization including its organs: the Conference of the States Parties to which all signatories have membership, the Executive Council - a smaller group, the members of which are elected by the Conference, and the Technical Secretariat - a group established to assist the other two organs in the performance of their functions, and to carry out the verification measures so specified in this Convention.

Type of Facility	**Type of Activity to be Reported for Previous Calendar Year and Anticipated for Next Calendar Year**	**Annual Production Threshold for Reporting**	**Threshold for Inspections**
Schedule 1	Production, processing, consumption, acquisition, import and export data	• 100g	• 100g
Schedule 2	Production, processing, consumption, import and export data	• 1kg benzilate • 100kg (Amiton, PFIB) • 1 metric ton for other Schedule 2 chemicals	• 10kg benzilate • 1 metric ton (Amiton, PFIB) • 10 metric tons for other Schedule 2 chemicals
Schedule 3	Production, import and export data	• 30 metric tons	• 200 metric tons

Other chemical production facilities	Production data for previous year only	• 30 metric tons for discrete organic chemicals containing phosphorus, sulfur, or fluorine	• 200 metric tons

Figure 1. Convention Thresholds for Annual Data Declarations and Routine Inspections

Source: The Stimson Center, "Thresholds for Annual Data Declarations and Routine Inspections," URL:<http://www.stimson.org/cwc/threshld.htm>, accessed 16 October 1997.

Consultations, cooperation, and fact-finding among member states as well as with the Organization are addressed in Article IX, while Article X discusses both Organization-provided protection available against chemical weapons, and advice on protective measures.

Article XI provides the economic and technological development provisions for chemical activities not prohibited under the Convention.

Situational redress-measures to ensure compliance with Convention provisions are described in Article XII, in addition to the means for and of imposing sanctions. Convention relationships to other international agreements are stated in Article XIII, while Article XIV is concerned with the settlement of disputes arising from the application or interpretation of the provisions of the Convention.

The procedures for proposing Amendments to the Convention are given in Article XV, and the time duration of the Convention, as well as the means whereby a member state may withdraw from the Convention is given in Article XVI. The remaining articles (XVII through XXIV) are concerned with Convention administrative matters.[14]

Clinton Administration's National Strategic Strategy Regarding Chemical Weapons

President Clinton presented a number of priorities that he deems are necessary to keep "America strong, secure, and prosperous and to advancing our national security objectives."[15] He believes that our strategy to achieve these objectives has to come from the firm and steady investment of our will and resources along with the consistent support of the American public and all its elected officials - the same type of support that was exhibited by both political parties in the April 1997 Congressional ratification of the CWC. The President wishes the United States to help "shape the international environment in ways favorable to U.S. interests and global security."

16 One of the tools to be used involves arms control efforts on both regional and multilateral bases, including the implementation and enforcement of the CWC.

He is concerned about the continued tensions on the Korean Peninsula, and the threats these tensions pose to the stability of the entire East Asian region. The elimination of the existing chemical/biological threat would go a long way toward the restoration of peace and stability on the peninsula. Bilateral talks with the North Koreans are aimed toward, inter alia, the ending of their chemical and biological programs.

In Southwest Asia, the President's goal is to see Iraq be reintegrated into the international community, but only after Iraq has complied with all of the conditions contained within the resolutions passed by the United Nations Security Council (UNSC) following the Gulf War, which includes the cessation of any military programs involving chemical, biological or nuclear weapons, and the destruction of any related existing weapon stocks and materials. The present U.S. policy regarding Iran is aimed toward the challenge of influencing the behavior of its leaders and their persistent efforts to acquire weapons of mass destruction and the necessary missile delivery systems.

Spies in our Midst

In early fall of 1997, three American citizens were arrested as alleged spies, two of whom had Pentagon-issued security clearances. One of the two was a DoD employee, and married to a known Communist sympathizer (who also was the third party arrested). The other one of the two with security clearances had some years prior been denied a job at the CIA, being regarded as a security risk. And as a young man, he also had made anti-draft on-the-record statements by quoting the revolutionary Mao Tse-tung, and pledging to defeat U.S. imperialism. Yet this same person was granted a security clearance while working for a DoD contractor, and giving him access to chemical weapons documents, including a manual that described how to manufacture nerve gas. Defense Secretary Cohen expressed concern about the breach in security and ordered an inspection into existing DoD security measures, but warned against the implementation of controls and tactics restrictive to the point that they reflected Russian society under Stalin.[17]

Future Use of Chemical Weapons by Rogue States

One of the US-recognized rogue states, North Korea, is considering a first strike against South Korea, "and is capable of scorching South Korea with nuclear weapons, chemical weapons and rockets" - so says, Hwang Jang Yop, a defecting senior official from North Korea. According to Hwang, North Korea believes it can win a war with its Southern neighbor. And plans are in place to scorch Japan as well, if the U.S. were to intervene with a North-South Korean skirmish. The threat is very real as the North Korean Army, the world's fourth largest, has retained its strength and capability while the general population is suffering from acute distress because of the collapse of the North Korean economy. According to certain analysts, North Korea has dramatically increased, over the last couple years, its number of long-range artillery and rocket launchers. These weapons, against which there is no real defense, are positioned near the DMZ and are assumed to be chemical weapon delivery systems.[18]

A Congressional National Defense Panel (NDP), set up to accomplish a critique of the Pentagon's Quadrennial Defense Review (QDR), found lacking-fault with the Review because of its apparent lack of emphasis on intelligence. The NDP felt that if the QDR (correctly) recognized the increased complexity of war over time, it should have recognized the importance of corresponding increased need for the various

strategic and tactical intelligence disciplines. To collect, analyze, and disseminate this future-required intelligence will necessitate the increased utilization of HUMINT, SIGINT, and IMINT means, and all-weather ground, airborne, and space systems. Acquisition of improved and integrated collection systems should be increased, not decreased as the QDR-recommended reduced buy of JSTARS aircraft.[19]

Ten years after the Gulf War, the Coalition forces are still having to contend with Saddam and his persistent efforts to acquire weapons of mass destruction. In its earlier war with Iran, Iraq used poison gas and was trying to build nuclear weapons, and since the Gulf War, it appears that Iraqi-acquisition goals for WMD have not ceased in spite of the U.N. mandated resolutions. Open sources state that U.N. inspectors have located and destroyed "28,000 chemical munitions; 480,000 liters of chemical weapons agents; more than one million kilograms of different precursor chemicals; biological weapon production equipment; and a complete biological weapons' factory complex. Tons of Iraqi nerve gas are still unaccounted for."[20] It is theorized that the recent controversy over the Iraqi expulsion order for Americans on the U.N. inspection teams, and the threats to shoot down any U-2 intelligence-gathering flights, has to do with Saddam's attempt to block the discovery of new stores of weapons, including sites where VX nerve gas is buried. The U.N. maintains surveillance cameras at sensitive sites suspected of producing illegal weapons. Knowing that the U.N. would not yield to Iraqi demands for the exclusion of American members on the inspection teams, Iraq has blocked since 1997 all ground inspections. The U.N., for its part, has temporarily stopped the U-2 overflights. This now gives the Iraqis time to commit additional violations by moving potentially arms-related equipment out of sight of the surveillance cameras, and perhaps to also tamper with the cameras by covering their lenses, and turning off the lights in the facilities being monitored.[21] In addition, without the inspectors being able to get onto the various sites, they cannot change the cassettes in the chemical air samplers used to detect any banned chemical warfare activity. The cassettes need to be changed and analyzed on a regular basis. The sites being monitored by air samplers contain dual-purpose equipment that could be switched to make chemical agents for weapon purposes in a very short time period. And if the situation persists, then the basic monitoring endeavors are "back to square one"; that is, the baseline of how much chemical weapon-agents Iraq had or had produced is lost.[22] It appears that Saddam never had any intentions of complying with the U.N. resolutions. In addition, this brings to mind the Gulf War incident involving the war-damaged "baby milk factory," where world journalists were shown the alleged criminal behavior of the U.S., when in fact, a top-secret weapon facility was hidden behind the veneer shown to the journalists. Given Saddam's mind set, any lifted or even weakened U.N.-sanctions now, or in the foreseeable future, would probably result in a renewed arms race in the Mideast, and the eventual possible use of chemical or biological weapons. The recent rift has not been lost on the Israeli public, in that remembering the SCUD attacks during the Persian Gulf War, Israelis are once again queuing up in long lines to obtain gas masks at the various distribution centers.[23]

Iran's chemical weapons program has been declared by the U.S. State Department as one of the most active in today's world. There is considerable concern about reports of China's assistance to Iran (and to other rogue states) in matters of chemical warfare technology and production equipment's.[24] Even though the Pentagon denies that any precedence is being set, the U.S. purchased 21 Soviet-era MiG-29 aircraft from the former Soviet republic of Moldova in order that rogue nations such as Iran would not get them. The U.S. has consistently vocalized warnings concerning Iran and its goals to acquire WMD and the means to deliver the weapons. The funding program used to purchase the MiGs had previously been used to buy up available bomb-grade uranium from Kazahkstan, but this is the first time that the program was used to buy actual weapons.[25]

Can We Finally Have a World Free of Chemical Weapons"

The killing power of chemical weapons is indiscriminate in nature, that is, the chemical agents within the detonated weapon affect every unsuspecting and unprotected living being with which it comes into contact. This type of weapon got its start in WWI, when tens of thousands of soldiers were killed or wounded in the fields and trenches of Flanders by, according to today"s standards, a rather unsophisticated means of delivery of poison gas, chlorine and mustard. The Japanese allegedly used chemical weapons against the Chinese during WWII. During the 1980s, Iraq used these weapons twice: first, in its war with Iran, and second, against its Kurdish minority in northern Iraq. There are media accounts pointing to evidence of Russian use of chemical weapons in Afghanistan. In addition, American soldiers were exposed to Iraqi chemical agents when arms dumps were destroyed during and after the 1991 Gulf War. In 1995, a dozen people were killed and many thousands injured by means of a poison gas attack in a Japanese subway. Designated as a "poor man's nuclear weapon," chemical weapons pose a real threat from terrorists and rogue nations.[26] [27] [28]

Theoretically, the passage of the CWC by the nations of the world would allow for a world without chemical weapons. Countries would be banned from producing, possessing, or using chemical weapons. Existing weapons and production facilities would have to be destroyed. Treaty compliance would be accomplished by means of a very active and exacting international inspection and verification system. Severe trade restrictions would be the penalties imposed upon those nations not joining the CWC.[29]

Chemical Weapon Destruction Challenges

Green Cross Russia, an affiliate of Green Cross International whose major activity is the facilitation of safe and sound cleanups of toxic materials left over from the Cold War, is organizing open forums to discuss destruction issues concerned with the chemical warfare agents presently being stored at Russian facilities. Now that Russia has ratified the CWC and prepares for the destruction of their weapons and related materials, Green Cross Russia believes that public education and participation are integral essential parts of the process for introducing new technologies for environmentally safe methods of destroying or neutralizing chemical weapons.[30]

Both China and Japan have ratified the CWC, and the treaty obligates Japan to now clean up the hundreds of thousands of chemical weapons it had left behind during its occupation of China in WWII. Accidental encounters with these munitions have killed or injured thousands of Chinese in the last 50 years, leading some Chinese to sue the Japanese government. A number of petitions for damages are presently being processed in Tokyo courts. Japan has pledged to destroy these abandoned weapons, and joint Chinese-Japanese working group meetings have commenced with the goal of designing a mutually agreeable destruction plan. Both China and Japan are lacking in chemical weapon disposal experiences. Consequently, technicians have been sent to such countries as the U.S., Great Britain, and Germany to study munition-handling methods developed by the respective nations.[31] [32]

The U.S. decided many years ago to stop the production of chemical weapons, and has been destroying its stockpile since 1990.[33] Since its ratification of the treaty in 1997, the U.S. has had its Lexington Blue Grass, KY storage facility successfully inspected by the Hague-based team from the Organization for the Prohibition of Chemical Weapons (OPCW). The weapons at Blue Grass were originally scheduled to be destroyed by 2004. This date was mandated by U.S. law. However, under the CWC provisions, the U.S.

would have until 2012 (based on a treaty-allowed extension). The Army's preferred method of destruction is incineration, however, very active and vocal public opposition has caused the Army to investigate alternative methods. It is anticipated that the treaty extended-date provisions will be necessary if any destruction method other than incineration is picked.[34]

Many thousands of U.S. veterans of the 1991 Gulf War are complaining of unexplained illnesses. The Pentagon"s late admission that perhaps some 20,000 troops may have been exposed to chemical agents as a result of U.S. destruction incidents involving Iraqi weapon facilities, has undermined the credibility of the DoD in its initial (and perhaps superficial) internal investigation. Prior to the admission, DoD had made adamant assertions that no chemical weapons had been used in the war. [35] [36] There has been a great deal of dialog concerning the sensitivity of the existing (then and now) U.S. chemical agent detection devices, and the accuracy of their use during the Gulf War. Georgia Tech Research Institute (GTRI) has been conducting research on chemical agent sensor chips. These new solid state devices, employing optical techniques, are extremely sensitive and do their work in less than 3-4 seconds. Their affordability and ease of use should be very beneficial for both warfare applications and in monitoring applications for environmental spills.[37]

Workability Challenges

The Executive Secretary, Ian Kenyon, of the OPCW Preparatory Commission, states that "the [ultimate] success of this Convention will depend on the workability of its verification system, built on the twin pillars of declarations by states parties and on-site inspections by the OPCW."[38] He warns of the dangers to the Convention's effectiveness if individual national level implementations are not accomplished within the time provisions of the Convention. Not only would confidence in the Convention be eroded, but resources unnecessarily expended and political relationships complicated because of having to deal with matters of an unintentional noncompliance.[39] In order to avoid the potential problems associated with states mistakenly adopting obligation measures that do not match or mirror the intent and provisions of the Convention, it is recommended that states incorporate either the exact text or make reference to the General Purpose Criterion contained in Article II of the Convention.[40]

And Finally

John Holum, U.S. ACDA director, is quoted in 1994 as saying "To make chemical weapons is a waste; to keep them, an affliction; to use them, an abomination. It's time to put the genie back in the bottle and destroy the bottle."[41]

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